

HURRICANE RELIEF OPERATIONS IN THE CARIBBEAN: IS THE USE OF THE
MILITARY IN HURRICANE RELIEF OPERATIONS APPROPRIATE?

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GEORGE N. ROBINSON, LIEUTENANT COLONEL
The Trinidad and Tobago Regiment
M.B.A., The University of the West Indies, St. Augustine, 1999

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THESIS APPROVAL PAGE

Name of Candidate: Lieutenant Colonel George N. Robinson

Thesis Title: Hurricane Relief Operations in the Caribbean: Is the Use of the
Military in Hurricane Relief Operations Appropriate?

Approved by:

_____, Thesis Committee Chair
Lieutenant Colonel Steven G. Meddaugh, M.S.

_____, Member
Charles J. Zaruba, M.A., M.B.A.

_____, Consulting Faculty
Colonel Wanda N. Vaughn, Ph.D.

Accepted this 18th day of June 2004 by:

_____, Director, Graduate Degree Programs
Robert F. Baumann, Ph.D.

The opinions and conclusions expressed herein are those of the student author and do not necessarily represent the views of the U.S. Army Command and General Staff College or any other governmental agency. (References to this study should include the foregoing statement.)

ABSTRACT

HURRICANE RELIEF OPERATIONS IN THE CARIBBEAN: IS THE USE OF THE MILITARY IN HURRICANE RELIEF OPERATIONS APPROPRIATE, by Lt. Col George N. Robinson, 82 Pages.

Considering meteorological projections, the frequency and magnitude of hurricanes in the Caribbean appear more probable in the future. Correspondingly, this necessitates a more organized response to such threats of devastation. Additional hurricane relief operations increase resource consumption and reduce already scarce resources that are required for competing foreign and domestic policy objectives.

This study examines hurricane relief operations to determine if there is an appropriate role for the armed forces of the Caribbean in managing the response to hurricanes. The thesis examines the existing Caribbean agreement that established the Caribbean Disaster Response Agency (CDERA) and compares it to the United States of America Emergency Management Assistance Compact (EMAC). The thesis concludes that there is an appropriate role for the armed forces of the Caribbean in hurricane relief operations and recommends a new policy approach to achieve this objective.

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ACRONYMS

BWIA	British West Indian Airways
CARICOM	Caribbean Community and Common Market
CCOS	Coordinating Chief of Staff
CDERA	Caribbean Disaster Response Agency.
CDRU	Caribbean Disaster Response Unit
CDRU	Caribbean Disaster Response Unit
CLO	Central Liaison Office
DOD	Department of Defense
EMAC	Emergency Management Assistance Compact
EU	European Union
FEMA	Federal Emergency Management Agency
ICS	Incident Command System
NATO	North Atlantic Treaty Organization
NGO	Nongovernmental Organization
ODA	United Kingdom's Overseas Development Agency
PCDPPP	Pan Caribbean Disaster Preparedness and Prevention Project
RSS	Regional Security System
UN	United Nations
UNDP	United Nations Development Program
USAID	United States Agency for International Development.

CHAPTER 1

INTRODUCTION

This chapter aims to present the situation, issues, and challenges of hurricane relief management at the regional level in the Caribbean. It will present the historical background and reasons for the concerted effort in the region to mitigate the effects of hurricanes. The chapter will explain that, as these countries' economies depend on a single income generating sector, Caribbean governments try to mitigate the effects of hurricanes and commit significant resources to hurricane consequence management.

Caribbean nations realize that the constant threat of having their economic prosperity reversed by the onslaught of a naturally occurring phenomenon poses a threat to their security and consider it in their planning and development policies. According to Dr. Ivelaw Griffith, the definition of national security has expanded to include environmental concerns, social problems, economic crises, and natural disasters. Therefore the involvement of the Caribbean military in addressing these issues has correspondingly increased (1996, 19).

The Hurricane Phenomenon

“In the Caribbean, hurricanes are the most frequent and wide ranging natural disturbance, and they have been recorded as causing significant damage to human settlements as early as 1509, when Santo Domingo was destroyed” (OAS 1995, 1). The term hurricane is a combination of colonial Spanish and Caribbean Indian (Amerindian) words for evil spirits and big winds. Caribbean hurricanes are a type of tropical cyclone. They originate in the Atlantic Ocean off the coast of Africa and affect the Caribbean and

the Gulf coast and eastern seaboard of the United States of America. Hurricanes generally occur between 1 June and 30 November every year (US Department of Commerce, National Oceanic and Atmospheric Administration, National Weather Service, 2003, 1).

The main hazards associated with hurricanes are high winds, storm surge, heavy rain, and flooding. Hurricane winds blow in a large spiral around a relative calm center known as the "eye." The eye is generally twenty to thirty miles wide, and the storm may extend outward four hundred miles. The winds can sustain maximum forward speeds in excess of seventy-four miles per hour. The intensity of a hurricane is an indicator of damage potential and is measured on the Saffir and Simpson Hurricane Scale (US Department of Commerce, National Oceanic and Atmospheric Administration, National Weather Service, 2003, 1). Hurricane winds not only damage structures, but the barrage of debris they carry is quite dangerous to anyone caught outdoors during the storm. Damaging winds begin well before the hurricane eye reaches land.

Hurricanes frequently produce huge amounts of rain, and flooding can be a significant problem, particularly for inland communities. A typical hurricane brings at least six to twelve inches of rainfall to the area it crosses. The resulting floods cause considerable damage and loss of life, especially in mountainous areas where heavy rains result in flash floods and devastating mudslides (US Department of Commerce, National Oceanic and Atmospheric Administration, National Weather Service, 2003, 1).

Early Hurricane Management Attempts

In the period 1962 to 1979 or the post-independence period, individual countries in the Caribbean managed the aftermath of hurricanes independently. On occasions these countries received help from the former colonial governments. According to Jean Luc

Poncelet, “Concerted regional disaster initiatives in the Caribbean date back to the 1980s” (1997, 271).

After the devastating hurricanes in 1979 and 1980, Caribbean leaders, led by the Caribbean Community and Common Market (CARICOM), shifted their focus from post-disaster reconstruction and rehabilitation to consider a broader and more fundamental approach to disaster management. In 1991, Caribbean governments created several national disaster management agencies and one regional disaster management project called the "Pan Caribbean Disaster Preparedness and Prevention Project" (PCDPPP) (Bisek, Jones, and Ornstein 2001, 9).

Although it was conceived as a short-term, eighteen month project, focused solely on disaster preparedness, the PCDPPP operated for almost ten years. In 1989, when the project extended its work to disaster prevention, its acronym was lengthened to the Pan Caribbean Disaster Preparedness and Prevention Project (PCDPPP) to accommodate the term "prevention." The project finally ended in 1991. Recognizing the need to institutionalize the work started by the PCDPPP, in 1991 the Heads of Government of Caribbean Common Market (CARICOM) established a regional agency to coordinate disaster management activities. CARICOM established the Caribbean Disaster Emergency Response Agency (CDERA) in September 1991 with its headquarters in Barbados (Poncelet 1997, 272).

The Early Role of the Military

Since early 1960s Caribbean defense forces provided assistance in hurricane relief management (Phillips 1997, 27). However the process was unstructured and uncoordinated. This disaster management role reflects common practices in the United

States and Europe during the 1950s and 1960s. During the Cold War, many of the industrialized nations built extensive civil defense networks to respond to civilian needs in the event of a nuclear attack. Responsibility for coordinating activities was normally placed in the hands of military or paramilitary organizations (Blanchard 1986, i).

According to Poncelet there were “no specific national organizations to deal with natural disasters in the Caribbean” (1997, 273). Special powers were given to the defense or police forces on the declaration of a state of emergency. Furthermore, as developing countries the expense of raising and sustaining military forces was indeed burdensome. Therefore the civilian authorities generally turned to the military for help with the conduct of disaster relief missions primarily because of their physical assets and propensity for hard work. Russell R Dynes explains this approach. He says “in many ‘developing’ countries, especially those in South America, Africa, and South Asia, the responsibility to protect civilian populations was usually assigned to their armed forces. While armed conflict was not an immediate threat, new governments’ often assigned ‘disaster’ responsibility to newly emerging military organizations” (1974, 4).

Current Approaches to Hurricane Management

The main objectives of CDERA were to provide a coordinated emergency relief to any affected participating state; provide reliable information to governmental organizations and NGOs and donors regarding the effects of a disaster; mobilize and coordinate the supply and delivery of disaster relief to an affected country; mitigate or eliminate the immediate consequences of natural disasters; and promote and establish sustainable disaster response capabilities among countries (Caribbean Community Secretariat, 1991, 2).

CDERA's function is to make an immediate and coordinated response to any disastrous event affecting any participating state, once the state requests such assistance. The organs of this agency include: (1) The Council; (2) The Board of Directors; and (3) The Coordinating Unit (Caribbean Community Secretariat, 1991, 2).

The CDERA Coordinating Unit has the overall responsibility for the coordination of the regional response to disasters. It is responsible for mobilizing and organizing outside technical assistance for participating countries interested in disaster management, which includes prevention, preparedness, and mitigation. It collaborates with multiple agencies including the UN and international donors. Among its many duties it undertakes liaison with the disciplined forces of participating states both in the planning and the response stage of any operation mounted after the activation of the triggering mechanism (Caribbean Community Secretariat, 1991, 4).

CDERA also serves as the primary coordinating agency for disaster response and recovery activities. To carry out this interagency role, CDERA executes a wide range of administrative, programmatic, and specialized tasks. Initial tasks include notification, activation, mobilization, deployment, staffing, and facility setup (Caribbean Community Secretariat 1991, 5).

Each participating state has a disaster plan and an Office of Emergency Services or similar agency that is responsible to the national leadership for coordinating disaster response efforts. National responders handle most disasters and emergencies. Before or immediately following a disaster, the state will activate an Emergency Operations Center to gather information, assess damage, and advise the Head of State (CDERA 2003, 2). The regional agency is called on to provide supplemental assistance when the

consequences of a disaster exceed national capabilities. If needed, CDERA can mobilize an array of resources to support national efforts. Various emergency teams, support personnel, specialized equipment, operating facilities, assistance programs, and access to international and nongovernmental resources constitute the overall regional disaster operations system (Caribbean Community Secretariat, 1991, 7-8).

Despite a lack of disaster policies in the Caribbean, the countries of the region adhere to the program and principles outlined by CDERA. These programs include hazard mitigation and predisaster planning for postdisaster recovery, emergency relief, recovery from emergencies, preserving human life, disaster education and training, and increased public understanding of the need and options for hazard mitigation through public information and education programs (CDERA 2003, 3).

During and after hurricanes CDERA processes the national leadership's request for disaster assistance, coordinates regional operations under a disaster declaration, and manages assistance. In continuing operations, CDERA provides support for logistics management; communications and information technology; financial management; community relations, public information, and other outreach; and information collection, analysis, and dissemination (CDERA 2003, 4).

CDERA undertakes the responsibility for coordinating disaster response in the Caribbean in conjunction with the Caribbean Disaster Response Unit (CDRU). CDRU is an Emergency Response Unit composed of two elements: trained personnel and ready to-go equipment. The CDRU, consisting of regional defense forces and the Regional Security System, maintains resources (personnel, equipment, and supplies) to support the

regional response to a major disaster or emergency. The CDRU will normally provide support only when asked (Belle 2002, 3).

The regional response plan assumes that CDERA involvement will occur only when the stricken State declares that the severity of the situation warrants assistance from unaffected participating States. Three levels of regional response are detailed in Table 1 (CDERA 2003, 4).

Table 1. Levels of Disaster		
Level	Description	Extent of Regional Involvement
I	Local incidents within a Participating State are dealt with in the regular operating mode of the emergency services. The local national focal point is required to submit, on a timely basis, information on the emergency event for the purposes of consolidating regional disaster records.	No regional response required
II	Disasters taking place at the national level which do not overwhelm the socio-economic structure or capacity to respond within the affected state. In such cases, the primary assistance at the regional level will be limited to providing technical expertise to National Disaster Organizations or facilitating their access to specific resources which may be required due to the particular disaster event. The whole operation is still managed by the national disaster focal point.	Limited or specialized
III	Disasters which overwhelm the capacity of the affected state(s) to respond. In such instances the Regional Response Mechanism is activated. This includes the activation of the Caribbean Disaster Relief Unit (CDRU) which is the operational arm of the Regional Response Mechanism. The CDRU comprises representatives from the military forces within CARICOM and its main responsibility is logistical support for the receipt and dispatch of relief supplies.	Full activation

Source: Caribbean Disaster Response Agency, *Levels of Regional Response to Disasters* CDERA Barbados 2001, 3

In the disaster relief phase, CDRU takes measures to save and sustain the lives of survivors and to help them meet basic needs for shelter, water, food, and medical care. Relief activities continue for as long as there are serious and immediate threats to human life and wellbeing, and people are unable to meet their basic survival needs. Relief will include humanitarian assistance ensuring the survival of the most severely affected, establishing essential communications and transport services to support these operations.

Management of hurricanes in the Caribbean involves the activities of four groups. They are: (1) the people of the Caribbean; (2) the professionals who work for national governments, regional agencies, donor organizations both regional and international; (3) the international community that supports these two groups, and (4) national and regional governing bodies. Disaster management in the region serves to maximize use of limited resources, minimize duplication and replication of functions, facilitate program input and output efficiencies, and increase potential for influencing policy development. Many deem disaster management as critical to the survival of the Caribbean. Although coordination on these regional hurricane relief programs and projects is imperative, coordinating efforts have suffered the effects of diverse national programs and particular donor institutional agendas. Recognizing this problem, the countries and donor agencies have made several attempts to establish a framework for coordinating their activities.

Current Military Role in Disaster Management

The CDERA establishing agreement divides CARICOM into four subregional focal points as follows (CDERA 2003, 2):

1. Jamaica – Bahamas, Belize, Turks and Caicos Islands

2. Antigua and Barbuda -- British Virgin Islands, Anguilla, St Kitts and Nevis, Montserrat
3. Barbados -- Dominica, St. Lucia, St. Vincent and the Grenadines
4. Trinidad and Tobago -- Grenada, Guyana

In the event of a hurricane in the Caribbean the need for postdisaster military assistance is proportional to the size of the disaster and the request from the stricken territory. The military plays a supporting role to the lead civil agency during these regional emergencies. During the warning stages of the hurricane, military and police forces conduct battle procedure which prepares them for deployment at short notice in response to an emergency. CARICOM selects a Coordinating Chief of Staff (CCOS) who is the Head of the Defense Force in an unaffected country closest to the stricken area after coordinating with the military forces and police forces in the region (CDERA 2003, 4).

The CCOS in conjunction with CDERA will appoint a Special Coordinator who will be the on-scene Commander. The Special Coordinator is normally a senior military officer whose job will include liaising with CDERA, heads of contributing service forces and international military agencies. The CCOS is responsible for mobilizing the CDRU and appointing or confirming the Director of CDRU. Figure 1 outlines the process. Disciplined forces (military and police) can then mobilize in response to a request by a participating state of CDERA and after consultation between Military and Police Security Chiefs and the Director of CDERA (Caribbean Community Secretariat, 1991, 8).

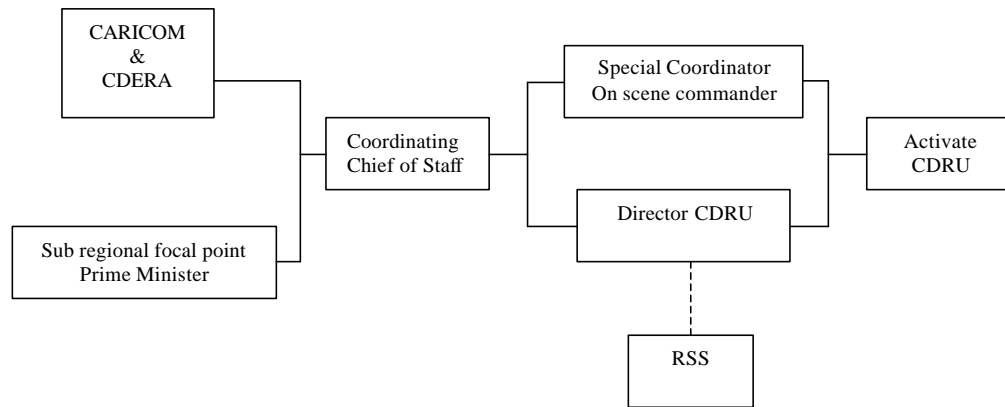


Figure 1. The Activation Process

One of the major contributors to relief management in the Caribbean is the Regional Security System (RSS). The RSS comprises Antigua and Barbuda, Barbados, The Commonwealth of Dominica, Grenada, Saint Christopher and Nevis, Saint Lucia, Saint Vincent and the Grenadines. Among the many purposes and functions of the RSS are coordinating national emergencies, search and rescue, natural and other disasters, and pollution control (Organization of Eastern Caribbean Countries Secretariat 1996, 1). This system coordinates military assistance to hurricane relief operations for treaty member countries.

It must be noted that there is a clear distinction between CDERA participating states and states belonging to the RSS. Only the territories listed in the preceding paragraph belong to that system. The larger states, like Guyana, Belize, Jamaica, and Trinidad and Tobago, do not belong to this treaty organization and respond to requests from the receiving state only. The response mechanism in practice works in a different fashion for non-RSS countries. Non-RSS countries only respond when requested.

Caribbean Disaster Emergency Response Agency's Limitations

The response plan is based on the following assumptions:

1. Unaffected countries will give speedy consideration to assisting affected countries in their rehabilitation process.
2. Regional partners will develop and support mechanisms and procedures for civil-military, public and multi-country cooperation in planning joint exercises and mutual assistance for response to natural disasters in the region.
3. CDERA and its international partners will collaborate in defining further areas of technical cooperation.

Addressing the Problem

The work of carrying out and improving hurricane relief operations never ends. Hurricanes will continue to occur and the expectations of the responder's community will increase. Caribbean countries need to develop a functional system that will maximize the employment all governments' resources to manage the aftereffects of hurricanes.

The focus of this research is to determine if the particular mission, managing the aftereffects of a hurricane, is an appropriate task for all English-speaking Caribbean armed forces to undertake? The limitations of the research are that it will focus on the English-speaking counties of the Caribbean, namely Antigua and Barbuda, Bahamas, Barbados, Belize, Dominica, Grenada, Guyana, Jamaica, St. Kitts and Nevis, St. Vincent and the Grenadines, and Trinidad and Tobago.

In order to answer the primary question of the thesis, the writer must research the following secondary questions: How may military efforts be coordinated with those of civilian authorities? What relationships exist now? What factors shaped the existing

relationships? These questions will examine the historical antecedents and the current protocols for managing hurricanes to which Caribbean governments subscribe. In addition this thesis will examine public acceptance, organizational culture, and work ethic issues.

What risks are posed to military forces in such operations and are they justified? Are they well equipped and properly resourced for the role? Do they perform these missions to the detriment of their primary role? Are there hazards, challenges, or liabilities that the military cannot handle? These questions will examine the capability of the defense forces in the region to respond to interagency requests for assistance to manage postdisaster problems.

Does military involvement run the risk of creating an open-ended commitment which can rapidly expand and from which withdrawal may be very difficult? Is the current relationship structured? Does the relationship define clear roles for involvement? Is there a recommended relationship or solution? These questions will examine structure and process issues that must be addressed in inter-agency cooperation. The recommended role will be examined to determine if there are means available to fulfill the role, and does it help to alleviate the vulnerability of the region.

Importance

Caribbean nations are subject to extreme tropical climate phenomena. These phenomena produce secondary effects such as floods, landslides, loss of life and property. When such disasters occur, Caribbean nations must divert scarce resources previously earmarked for development projects to import emergency food supplies and rehabilitation and reconstruction activities. Therefore, these disasters are one of the major

contributors to underdevelopment, and underdevelopment is one of the major contributors to the dysfunction of the society. It is a vicious circle.

There is insufficient material written about the effects of disasters in the Caribbean, by Caribbean authors. Moreover there is an even greater insufficiency of material on the role of the military in disaster (hurricane) relief management. As such, no serious scholarly work is in the public domain on the debate over the appropriate use of the military to aid regional development. The thesis's goal is to serve as a catalyst to formalize the debate and to gather and document military experiences into a consensus of principles, standards and best practices for managing humanitarian assistance in emergency management situations. The thesis will seek to revamp the currently employed model and develop a simple systems archetype that users can immediately recognize and apply.

Assumptions

The following assumptions will guide this research effort:

1. Hurricane management in the region has assumed the proactive role of assisting in the development process.
2. Caribbean countries will continue to collaborate on this issue.
3. The Caribbean Disaster Relief Agency will continue to be the principal agency for the management of hurricane emergencies.
4. Caribbean leaders would continue to endorse the use of the military in managing the aftermath of hurricanes.

Limitations

The examination of the military's role in disaster relief management in the Caribbean is a relatively new area of study and as such there are no specific publications on the subject. However there are some publications on the vulnerability of the Caribbean to hurricanes and some examinations of the United States Army's approach to the issue from which the researcher can make some reasonable extrapolations. Further, the researcher has access to personnel employed in the disaster management field in Trinidad and Tobago who can provide helpful insights into the mechanics of the regional relief system. In addition, the researcher has had personal experience with hurricane or disaster management in the Caribbean.

Outline Summary

The introduction to this thesis has sought to establish the vulnerability of the Caribbean to hurricanes, the regional government's approach to the dilemma and the military's effort thus far to assist in postdisaster operations. It will examine the historical perspective and answer the questions of what relationships exist now and what factors shaped the existing relationships?

Chapter 2 is the literature review. The aim of this literature review is to gather and critically analyze research produced about military assistance to hurricane relief in the Caribbean region. The review focuses on comprehensive comparative studies, theoretical and empirical studies, and works that focus on the research questions. The author researched both academic and professional publications that included publications from the military, the major developmental agencies and policy think tanks.

Chapter 3 will discuss the research methodology. This chapter establishes the research approach and methods. It itemizes the overall objective and motivation behind the area of research and sets up the basis and justification for carrying out the research. It will provide the research framework to complete the research and an overall methodology. Finally it will describe and present different means of assessing the effectiveness and validity of the collected data.

Chapter 4 addresses the appropriateness of the use of the military in hurricane relief operations. It also examines the agreement establishing CDERA and compares this agreement against an agreement that exists in the United States of America, the Emergency Management Assistance Compact (EMAC). This comparison reveals organizational structural strengths and deficiencies that may facilitate or impede the role of the Caribbean military in providing assistance to the civil authorities during hurricane relief missions. Finally, it studies the deficiency that exists in the Caribbean military's ability to perform hurricane relief missions and the counterarguments against an appropriate role of the Caribbean military.

Chapter 5 concludes the examination with an answer derived from the research on the appropriateness of the current role of the military in hurricane management. These conclusions summarize the appropriateness of the use of military resources for regional disaster assistance and recommend factors for improving the utilization of these resources in assistance efforts.

CHAPTER 2

LITERATURE REVIEW

Introduction

The aim of this literature review is to gather and critically analyze research produced about military assistance to hurricane relief in the Caribbean region. The review focuses on comprehensive comparative studies, theoretical and empirical studies, and works that focus on the research questions. The author researched both academic and professional publications that included publications from the military, the major developmental agencies and policy think tanks.

The Caribbean is not a homogeneous entity like a state within the United States of America. It is more akin to the European Union or NATO and therefore is constrained by many of the same issues of sovereignty and insularity that confront Europe. Consequently in reviewing the literature to find archetypes for comparison, the author avoided archetypes that did not embody the complexity that surrounds hurricane relief management in the Caribbean. As there is no homogeneity, there is no federal military in the Caribbean that responds uniformly to requests made by CDERA.

Comparison of the Interstate Compact and the Agreement Establishing CDERA

There exists, however, an interstate compact that bears a striking relationship to the Caribbean situation. The United States of America's Congress approved the Emergency Management Assistance Compact (EMAC) on 9 October 1996 (U.S. Congress, Senate 1996). This agreement commits member states, through their respective Governors, to cooperating in planning for state-to-state extension of emergency

management help. It is an example of how political authorities give consent for, and legitimacy to such arrangements. The compact clarifies fiscal and legal issues of crossing state lines; places responding assets under operational control of the requesting governor; encourages deliberate planning and coordination between states; provides assets for state personnel and equipment shortfalls; and obtains support from FEMA for reimbursement of cross-state support.

The participating states within the United States developed this compact after many years of seeking a viable solution to their problems. The Southern Governors' Association conceived and initiated this compact after Hurricane Andrew in 1992. They used the language and concepts of the civil defense compact to draft this new agreement (Bullock 2000, 1). The compact therefore built on a base of experience unlike the CDERA agreement that developed from the conceptual stage. Undoubtedly, CDERA will have to amend the agreement as time and experience prove many assumptions invalid. The compact is similar in design to the agreement establishing CDERA except for the following:

1. It goes further to describe in detail the command and control relationships between the National Guard units of the sending state and the receiving state and separates policemen from guardsmen;
2. The compact establishes a mechanism for reimbursement for the cost of the operation;
3. The compact compels that all requests for assistance are done in writing.

“The purpose of the compact is to provide for mutual assistance among the states entering into this compact in managing any emergency or disaster that is duly declared by

the governor of the affected state, whether arising from natural disaster, technological hazard, man made disaster, civil emergency aspects of resources shortages, community disorders, insurgency, or enemy attack.” The compact addresses inter alia implementation of the agreement, party state responsibilities, command and control of emergency forces and liabilities. This compact is an example of good practice in policy formation, involves the use of the National Guard in a Title X role, and involves the use of other civilian emergency professionals (Indiana State Legislature 10-14-5-1 1996, 1).

The Research Questions

Research did not reveal any defined mechanism for developing military missions to support national interests. For instance in more developed countries there is a National Security Strategy and a National Military Strategy from which the military derives its mission. With such strategies the military can then develop its table of organization and equipment, and conduct force management to achieve the force structure goals. This is essential to proper strategic management of the military. The inability to find explicit strategies in the body of literature concerning the Caribbean military does not mean that strategic planning is non-existent in the Caribbean but its unavailability suggests that there is some deficiency in coordination among the governments in the Caribbean and the military over which tasks are essential to supporting the national interests of the region.

The following research questions formed the basis for the investigation. The research depended heavily on the available literature --the United States Army support to domestic disaster relief as there are few available publications on military assistance to disaster relief operations in the Caribbean.

Is the Use of the Military in Hurricane Relief Operations in the Caribbean Appropriate?

There is not much written about the appropriateness of using the armed forces of the Caribbean to undertake disaster relief missions. Even though publications on the specific subject are limited, authors obtusely addressed the subject when examining the topic of Caribbean security challenges. Military institutions in the Caribbean, unlike countries in North America and South America, were developed under peacetime conditions and their missions are thus confined to Operations Other than War (Phillips 1997, 20). Author Dion Phillips writes extensively on the origin of the military in the Caribbean and indicates that in the case of Trinidad and Tobago “there are two clear-cut foreign assistance functions which are assistance in times of disaster and overseas peacekeeping” (1997, 20).

Another author, Dr. Ivelaw L. Griffith in “*Caribbean Security on the Eve of the 21st Century*” posits that there are many issues that contribute to the Caribbean vulnerability challenge and that the susceptibility to hurricanes is just one of these concerns. He suggests that if susceptibility to hurricanes is a security concern then the military ought to be involved in the management of the aftermath of hurricanes. Additionally, in addressing the issue of collaboration on collective security issues such as disaster relief, Dr. Griffith’s concern is that there is a capability challenge that inhibits contribution to “collective security issues.” His opinion is that “this challenge does not merely arise because of the actual constraints and limitations with regard to money, equipment, training, etc. It does so because inherent in the capability disparities of cooperating states is the need for those with fewer deficiencies to give relatively more to the collective effort.” He goes on to state that “there are countries within the Caribbean

with sufficient individual capabilities to execute some security missions efficiently by themselves” (1996, 67).

Outside of the Caribbean, Brehm and Gray in their “*Alternative Missions for the Army*” state that “peacetime domestic missions are appropriate for the Army. . . . Without that perceived significance, the Army stands increasingly at risk from those who would maximize the ‘peace dividend’ to expand social programs.” They further stated that “there is no significant reason why the Army cannot assume this domestic role, continue to conduct peacetime engagement missions throughout the world, and remain a combat ready force” (1992, 10).

To support this view also, Field Manual 5-114, a US Army doctrinal manual on Engineer Operations Short of War asserts inter alia that “during peacetime, the secondary mission of the military element is to support political, economic, and informational efforts to achieve US goals. . . . Activities by armed forces under peacetime conditions must be closely coordinated with the agencies responsible for directing the use of the other elements of power. This is necessary to ensure unity of effort toward achieving US goals and a consistent approach by all US agencies in dealing with members of the international community.” The Field Manual makes it clear that the United States armed forces will participate in peacetime operations “that will promote stability within a nation or region of the world”(Department of Army FM 5-114 2002, 1-2). This field manual explicitly outlines in painstaking detail the policies, procedures and types of support that the US Army may provide and sets the agenda for establishing interagency coordination.

The deployment of the military on humanitarian missions has become a major topic of debate worldwide now that armed forces in several countries are undergoing

transformation. In addition to their traditional role in ensuring territorial defense, the military are increasingly called upon to carry out missions on behalf of the international community. Assigning humanitarian activities to military forces in certain emergency situations abroad is therefore considered a viable, even desirable, option. Gordenker and Weiss offer conceptual observations on the issue also. They feel that “the assistance of technical military units in humanitarian emergencies appears to offer the advantages of prior organization, speed and deliberate prior training. The provision of such services also enables combat-like field training for donors’ troops” (1991, 17).

Brigadier General Michael Harbottle (1917-1997) adds his voice to the debate. As a former Chief of Staff of the UN Peacekeeping forces in Cyprus, his opinion in “Possibilities for a Transformed Military” is that the military is best suited for disaster relief management. He says that “Over the years, military forces from many countries have quickly responded to the calls for help following major natural disasters. Their advantage over civil rescue operations is that they can move rapidly by air, land, or sea, and possess the infrastructure required for immediate positioning of the essential services under a single command and control system. Earth-moving machinery, medical teams and tented hospitals, communication and transport units, food and water can all be flown or parachuted to the site within a short space of time”(1998, 1). His works, and the experiences he shares, strengthen the arguments of those supporting the use of the military in hurricane relief operations. Gordenker and Weiss support this view and opine that “military establishments appear to civic leaders and to victims of disasters as a relatively rich pool of resources. Military forces always have an organizational base,

material resources including food, fuel, and medical supplies, and a presumed capacity for rapid response” (1991, 2).

However US Army Field Manual 100-19, *Domestic Support Operations*, advises that “the military does not stockpile resources solely for domestic disaster assistance. Disaster planning and coordination must occur between the appropriate agencies at the appropriate levels.” Further the manual also indicates that the “Army's structure and training in command and control, deployability, and sustainment operations offer ready and robust capabilities for disaster assistance support. Those same skills that soldiers and leaders use day to day often translate to the types of tasks required during disasters” (Department of Army FM 100-19 1993, 5-4).

Russell R Dynes offers a differing view. He sees military involvement in disaster relief operations as a remnant of World War II and the cold war. He views military involvement in disaster relief operations as “probably the most unimportant model for contemporary disaster management” (1974, 2). He opines that “the old civil defense, military model developed a number of serious flaws. Its wartime assumptions of social chaos, the need for social control, and the importance of external assistance did not stand up well, with careful scrutiny. Its preoccupation with only responding to disaster ignored the importance of preparedness, mitigation, and recovery” (1974, 3). His opinion is that there are adequate problem solving models that will prove to be more suitable in disaster relief situations.

Matthew Yarrow also shares Dynes’ view. He believes that soldiers are ill-suited to humanitarian operations and their participation can be counterproductive in these situations. He goes on to say “military personnel are trained first and foremost to kill

people and destroy things; such intrinsically aggressive and violent behavior is incompatible with most relief work. Furthermore, military-based relief efforts tend to cost significantly more than civilian relief efforts.” He views participation in disaster relief operations as a means “to inflate military budgets and justify force sizes.” These operations in his opinion “provide militaries with favorable media exposure to win the hearts and minds of people in the United States and abroad” (1999, 20).

How May Military Efforts be Coordinated with Those of Civilian Authorities?

There are deep-seated differences in the principles, structures, methodologies and skill sets of civil defense and military institutions that challenge civil-military cooperation. Questions of command and control are innate in any organized effort and central to any military operation. The highly centralized control system that makes military operations so efficient is the very characteristic that creates unnecessary challenges in disaster relief operations. E.L.Quarantelli observes that in the confusion of a disaster situation, “the question is often asked: who is in charge? Those who ask this assume that a particular organization is controlling the situation.” Quarantelli suggests that it is impossible to impose such control and that even if it were possible; it still would not be the best response model to follow as the military hierarchy of decision-making can discourage and inhibit cooperation and coordination (1998, 10-11).

The World Health Organization in Geneva in 1999 developed emergency management concepts to resolve the command, control and coordination and, lead organization issues. This organization stated that “Command directs the members and resources of an organization in performing the organization’s role and tasks and operates

vertically within the organization. Authority to command is established by agreement with an organization or in legislation.” It defined “Control as the overall direction of emergency activities. Authority for control is established by legislation or in a plan and carries with it the responsibility for tasking other organizations and coordinating their activities according to the needs of the situation. Control relates to situations and operates horizontally.” It delimited “Coordination as involving the systematic analysis of an emergency situation and available resources, and the provision of relevant information to organizations on the most effective actions to meet specific objectives. The lead organization is the organization principally responsible for responding to a particular hazard or type of emergency” (1999, 82.)

To remove the command and control paradigm from humanitarian operations, the United Nations Department of Peacekeeping Operations defines civil-military coordination as the “system of interaction, involving exchange of information, negotiation, de-confliction, mutual support, and planning at all levels between military elements and humanitarian organizations, development organizations, or the local civilian population, to achieve respective objectives.” According to Quarantelli, disparate views exist in a disaster area and “it is to be expected that even when a formal pre-impact accord to ‘coordinate’ a response exists, there often surfaces mutual accusations that one or both parties have failed to honor the agreement” (1998, 11). Agencies that are successful in disaster management, according to Quarantelli, see coordination as mutually agreed upon cooperation on how to deal with particular tasks.

The United States Government provides a great deal of legislation to direct the employment of federal troops in disaster relief situations at home. The Stafford Act, the

Flood and Coastal Storm Emergencies, the Economy Act and Army Regulation 500-60 (Emergency Employment of Army and Other Resources, Disaster Relief) establish statutory authority and limitations for disaster relief activity. Army Regulation 500-60 establishes the basis for participation in foreign disaster relief operations in chapter 7 of that instruction declaring that “Department of Defense takes part in foreign disaster relief only on request for assistance and allocation of funds from the Department of State. This does not prevent a military commander at the scene of a foreign disaster from responding to an imminent serious condition. Subject to defense priorities, DOD will respond rapidly to Department of State requests” (1981, 1). Further on the basis of a 15 September 1993 National Security Council decision, the administrator of the United States Agency for International Development (USAID) is to be the special coordinator for all U.S. international disaster assistance responses and is therefore the lead officer when these types of events enter the agenda of the U.S. interagency process (US Army Training and Doctrine Command 1994, 2-1).

What Risks Are Posed to Military Forces in Such Operations and Are They Justified?

Taking risks is inherent in the military environment. Any armed force conducts missions similar to disaster relief missions on a daily basis and generally has sophisticated technical equipment and means to assist (Gordenker and Weiss 1991, 8). Mitigating risks on any military activity or operation is a commander’s responsibility. Field Manual 100-19 states that “commanders realize that protecting soldiers and equipment is an implied aspect of any mission” (Department of Army 1993, 9-2). Mitigation of the risks associated with military operations commences in the training

environment where soldiers are taught safe use of tools and equipment. In hurricane relief operations and indeed any disaster relief operation there is a great deal of improvisation to complete the assigned tasks. This situation demands the continued vigilance of leaders at all levels to ensure that soldiers do not take unnecessary risks. The Manual urges that “commanders must ask four questions prior to and during any operation:

- Do my soldiers need specialized training for the mission?
 - Will my soldiers be required to use their equipment in a manner other than that for which it was designed?
 - Are my soldiers and their equipment operating under the conditions they had during training?
 - Do my soldiers or their equipment endanger the civilians we are supporting?
- (Department of Army 1993, 9-3)

The literature suggests that in domestic disaster relief operations there are no undue risks posed to soldiers and risks to troops and the legitimacy of their deployment are related. Explicitly, legitimate deployment of soldiers justifies the risk exposure. There are adequate checks and balances in most western systems of government to focus adequately on the risks posed to servicepersons.

Does Military Involvement Run the Risk of Creating an Open Ended
Commitment Which Can Rapidly Expand and from
Which Withdrawal May Be Very Difficult?

The Military Support to Civil Authorities Manual provides a reference for US federal, state and local agencies on how the Department of Defense supports civil authorities and how military assets can be used to restore society to normality. This Manual suggests that “planning for disengagement begins as soon as possible.” Detailed planning sets the conditions for termination of military support. After achieving the intent of the operation, responsibility passes to a lead agency, the State, or local government

authority. “End state conditions are objective criteria and can be defined by a functional task or geographical responsibility.” The operation intent should establish “not later than” times with officials that are keyed to major events.

These conditions represented by objective criteria may include:

1. Victims are receiving food and water.
2. Temporary shelter is available for victims.
3. Civil law enforcement is functioning.
4. Civilian health and welfare services are available.
5. Critical utilities service restored (power and communications).
6. Major transportation routes and facilities operational (roads, railroads, airports, and ports).
7. State and local offices are open and functioning.
8. Commercial businesses and contractors are available.
9. Worship facilities and religious support programs available.
10. Public media operational.
11. Postal service reestablished.
12. Schools open (Department of Defense 1994, 55)

Throughout the investigation the author found little emphasis placed on what the Caribbean is doing to help itself. There is however emphasis on what the international community is doing. This is disturbing as it suggests that the Caribbean people are not actively addressing critical issues facing their region, are content with accepting aid and technology from developed countries, or simply that there is insufficient Caribbean focus on the issue.

The investigation revealed that hurricane relief operations are activities designed to respond to the effects of a naturally occurring phenomenon and includes crisis planning, crisis management and crisis resolution. These operations involve and converge on political, economic, social and technological issues and are likely to have a harmful impact on developing countries. They are the type of operation that will place the most frequent demands on the Caribbean military. Their main characteristics are that they will

require planning and action by multiple governments, their ministries and agencies.

These operations will involve a range of support demands from the civilian population and given the complexity of our societies it will have international assistance.

CHAPTER 3

RESEARCH METHODOLOGY

Introduction

This chapter establishes the research approach and methods. It itemizes the overall objective and motivation behind the area of research and set up the basis and justification for carrying out the research. It will provide the research framework to complete the research and an overall methodology. Finally it will describe and present different means of assessing the effectiveness and validity of the collected data.

Object and Motivation for the Research

Ascertaining the potential contribution and liabilities of military forces in the Caribbean in the delivery of hurricane relief assistance is the long term objective of this research. There exists in the Caribbean the perennial problem of hurricane devastation. Hurricanes pose a threat to the development of Caribbean countries by destroying infrastructure and productive capacity, interrupting economic activity, and creating irreparable changes in the natural resource base. Frequently, countries in this region face situations in which scarce resources earmarked for development projects are diverted to relief and reconstruction activities following disasters, thus setting back economic growth. Many of these island nations' economies depend on agriculture and tourism as the main sources of income and need to recover rapidly from the ravages of hurricanes.

Basis and Justification for the Research

The basis for the research is to solve a controversy that exists. The dilemma is to find an appropriate role for military resources in relation to civilian resources in hurricane

relief management bearing in mind that assigning a distinct role for the military in hurricane relief operations is an accepted approach in most developing countries. Many believe that the military brings a solid operational and logistical capacity and provides an environment of order and efficiency. Many citizens do not recall that these competencies come with a cost and that they tend to displace other sources of assistance with a large and usually expensive operation. In addition, the military, given its peculiar style, tends to assume full responsibility for relief missions and crowd out civilian assistance.

With the increasing frequency of devastation, politicians are seeking additional resources to combat the after effects of hurricanes. Consequently, in small developing countries that are resource poor, leaders tend to include all state's assets in their management of disaster. The military is a state asset. This research therefore seeks to determine the appropriateness of the use of military assets of the Caribbean nation states in hurricane relief operations. The primary and secondary questions that will gather the necessary data for the conduct of the research are:

Primary Question. Is the use of the military in hurricane relief operations in the Caribbean appropriate?

Secondary Questions. 1. How may military efforts be coordinated with those of civilian authorities?

2. What risks are posed to military forces in such operations and are they justified?

3. Does military involvement run the risk of creating an open ended commitment which can rapidly expand and from which withdrawal may be very difficult?

According to Jean Luc Poncelet there were no specific national organizations to handle hurricane relief in the Caribbean until the 1960s. The heads of state handed the

defense and police forces special powers by emergency acts to deal with hurricane relief (1997, 273). In recent years assistance to civilian authorities has increased and become more formal. The multi-organizational and jurisdictional nature of hurricane response demands cooperation by all response agencies and the coordination and clarification of the roles of participating organizations. An effective emergency response system facilitates a team effort from those involved and prevents a breakdown in communications, facilitates the allocation of scarce resources and prevents chaotic operational tasking.

The Research Framework

The steps in the research process are the investigative method used to scrutinize the debate that exists about the use of military assets in disaster management and to break it down into its constituent parts for analysis. They are as follows and are represented in the figure 2.

1. Frame the research questions;
2. Design an investigative procedure;
3. Select and retrieve appropriate data;
4. Proceed with analysis and interpretation;
5. Compare the findings and interpretations with other relevant studies; and
6. Draw tentative conclusions concerning the research questions.

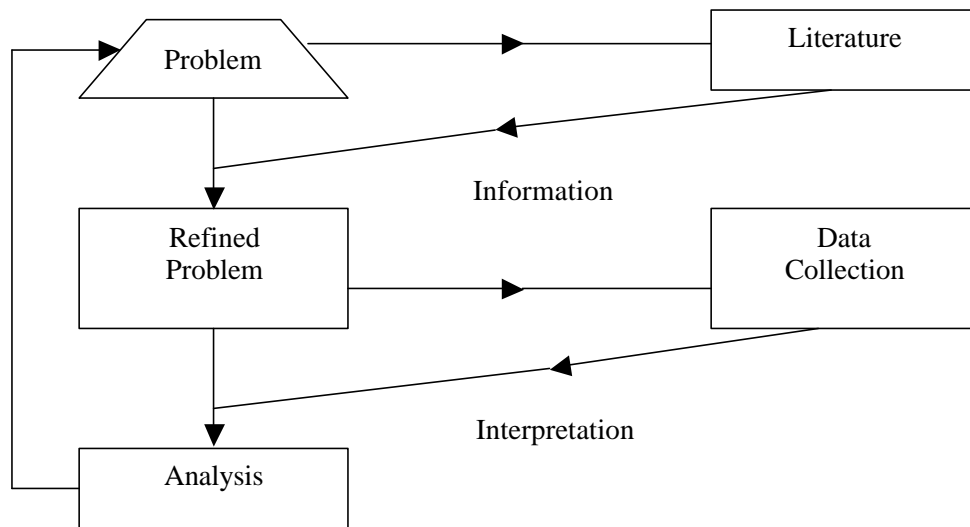


Figure 2. Methods Matrix

The research evaluates the secondary research material that is available at the Combined Arms Research Library (CARL). This material includes books, previous research reports, magazines and journal articles, field manuals and internet articles. The secondary research material provides information to refine and amplify the research questions. With the information gleaned from the secondary research, the research continues the evaluation of the appropriateness of the use of military assets in hurricane relief operations through a structured, focused comparison of the experience of the Southern Governor's Association of the United states of America using the Emergency Management Assistance Compact and the Caribbean military using the agreement that established CDERA. This takes the form of policy analysis.

Data Collection Procedures

The preceding paragraphs address the questions of what and where to look for information on the subject. This paragraph describes how to collect the required data. The

research design in this case does not seek to collect data only but can test the hypothesis using data that already exist among the information available in the public realm. The data collection procedures therefore outline how to find data or information that will suit the research need. These procedures also define the important concepts in the topic, determine the time horizon of the research and develop an appropriate article database or index. The design used themes and questions to find data relevant to the topic from the available secondary research. The research themes were as follows:

1. Are the mandates of the Caribbean military, roles and responsibilities clear and compatible?
2. What coordination mechanisms exist at national and regional levels?
3. Do they have the capability to participate in hurricane relief operations and what can be done to improve their capability?
4. What relationships exist now among the Caribbean military? What factors shaped the existing relationships?
5. What can be done to improve the coordination in the resource mobilization in the Caribbean by the multilateral actors?
6. Who is contributing what to hurricane response operations?
7. Do the participating military forces coordinate or compete.

This approach seems most relevant as the data already exist and there is only need to extract observations and data to answer the research questions.

The research process also entails listing all possible answers to specific research questions and ranking those that appear as the most probable answers or outcomes from the list of possible answers. This involves note taking and referencing collected

information so that the retrieval of information on a particular theme is uncomplicated. The list of ranked answers must become shorter than the list of possible answers. The ranked answers are selected for analysis.

Analysis of Data

The analysis of the acquired data starts with selecting what is the currently held opinion on the use of military assets in disaster management. Using the opinion of the experts in the field of disaster management, the research identifies reasons for the appropriateness of the use of military assets in hurricane relief operations. After establishing the reasons, the research then seeks to identify the current capability of the Caribbean military. The research then matches the current capability against the reasons that make military assets appropriate in hurricane relief operations to establish a capability gap. Next the research conducts a comparison with the United States National Guard that conducts a similar disaster relief mission and analyzes the existing legislation that enables the National Guard to conduct such missions in neighboring states.

Validity of the Research

The research seeks only corroborated answers to the research questions. The purpose of corroboration is to ensure that the research findings accurately reflect the view of the original author. Another purpose of corroboration was to help increase the probability that the research findings will be seen as credible or worthy of consideration by others. Thus the data came from different locations, socio-cultural contexts and from different time frames.

To assure the fidelity of the data collected, the research intertwined data-analysis and data-collection throughout the entire process. This relationship between collection and analysis led to requirements for additional data to fill in the gaps created in the logic by simultaneous analysis.

Limitations of the Research

An available Caribbean perspective limited the research. There is a general shortage of Caribbean material on the topic. To compensate for this dearth of published texts on the subject, the research uses the author's experience and the wealth of publications from the United States of America. Therefore in collecting data, the research constantly has to regard the lack of consistency of Caribbean perspective. The political, economic, sociological and technological perspective differed from those held in the Caribbean.

The political, economic, social and technological relationships in the Caribbean are significantly different from those in a developed country and are not influenced by the same issues. There are no hard criteria that could facilitate comparison of a developing region and a developed country. The author uses his experience and judgment to compensate for the difference in perspective.

Another limiting factor is a comparison of cost and benefits. A comparison of the cost of using military assets in disaster relief operations vis-à-vis the use of only civilian assets, is missing from the research as the military in the Caribbean does not keep such records or the records are not readily available. It is even harder to determine benefits as this is abstract and not generally recorded. Benefits in this case mean the goods and

services that disaster victims and disaster response agencies or public institutions receive directly from military assistance.

Summary

This chapter tells the reader how the author conducts the project. It establishes the process of investigation, involving the collection, analysis and interpretation of data. It identifies and studies unanswered questions or problematic issues in an attempt to produce a suitable answer to the issues of concern. The chapter is a roadmap for finding the evidence that is necessary to prove the hypothesis and describes the actual research work and lists tasks and research deliverables for completion.

CHAPTER 4

ANALYSIS

Introduction

This chapter addresses the appropriateness of the use of the military in hurricane relief operations. It also examines the agreement establishing CDERA and compares this agreement against an agreement that exists in the United States of America, the Emergency Management Assistance Compact (EMAC). This comparison reveals organizational structural strengths and deficiencies that may facilitate or impede the role of the Caribbean military in providing assistance to the civil authorities during hurricane relief missions. Finally, it studies the deficiency that exists in the Caribbean military's ability to perform hurricane relief missions and the counterarguments against an appropriate role of the Caribbean military.

This research defines appropriateness as the relevance or the degree of importance of the contribution of military assistance to hurricane relief operations. This contribution refers to saving lives, restoring the physical infrastructure and helping to return everyday life to normality in the Caribbean. Hurricanes affect the economy and civil society of the Caribbean.

Hurricane response is important as hurricanes do not respect political boundaries and have the potential to inflict damage on national and regional economies, as well as the social stability and security of Caribbean countries. Hurricane relief is an important area of concern for Caribbean governments given that many hurricanes have devastated Caribbean countries in the recent past. Without a sound and effective hurricane relief

system, the people and productive facilities of the Caribbean are susceptible to the after effects of hurricanes.

According to Dr. Griffith, “leaders in the Caribbean and the United States share a common assessment of the principal security concerns in the area: drugs, border disputes, poverty, corruption, natural disasters, illegal migration, insurgencies, and the environment. Consistent with this view, SOUTHCOM is focused on counter-drug operations, peacekeeping, humanitarian assistance and disaster relief” (2000, 68). Among the natural disasters to which Griffith refers, the hurricane is the most persistent disaster that threatens the Caribbean. Griffith refers to two significant issues. First, hurricanes threaten the peace, stability and independence of the Caribbean. Secondly, the United States SOUTHCOM identifies hurricanes among the principal security concerns in the region. Thus, expanding the use of Caribbean military resources in disaster relief operations will contribute to ensuring regional stability and help to assure the continued independence of the region.

Although the Caribbean region has a long history of economic setbacks resulting from hurricane impacts, Caribbean governments have traditionally paid little attention to altering the conditions of vulnerability. This approach is changing. The United Nations Environmental program notes that “considerable investment has been directed at mitigating the post impact humanitarian crises associated with hazard events” (Collymore 2000, 1). The research on the subject of Caribbean hurricane management shows that since the 1990’s, with the establishment of CDERA, an agenda is emerging to develop and maintain a structure and capability for disaster response and to a lesser extent mitigation.

The lack of correspondence between the Caribbean's hurricane loss experiences and the hurricane management initiatives suggests that the region's governments do not recognize the economic effect of hurricanes on their public debt and the role that effective hurricane relief management plays in easing economic problems. To improve institutional capacity and cooperation in hurricane relief management in the Caribbean, regional governments need to demonstrate the political will to reduce vulnerability through strategic level policy decisions that will facilitate national and regional capacity building and, facilitate full and effective utilization of domestic and regional resources that are essential to the safety, care and welfare of the people of the Caribbean in the event of a hurricane emergency declared by a Caribbean country.

Many developing nations, mainly due to resource shortages, ascribe to the concept of affording their military an expanded role in disaster management. According to the Chief of the South African Air Force, Lt-Gen James Kriel, "the military can contribute substantially to the alleviation of the basic survival-needs of the population in terms of natural adversity. While the military is not maintained for that purpose, it does represent a considerable investment in equipment and manpower that can and should be employed in a humanitarian role, including disaster relief, the maintenance of essential services, and so forth. It is in fact one of the universal subsidiary roles of the military" (Mills 1994, 13). This considerable investment in equipment and manpower that Kriel speaks of, facilitates a sound organizational structure, good training, leadership, motivation, technical skills, mobility and intercommunications – all characteristics that are valuable in disaster relief operations.

Improving resource limitations and coordinating the response to hurricane devastation are the very reasons for the establishment of CDERA. CDERA's purpose is to help ensure better protection for Caribbean people, the environment and property in the event of natural and technological disasters; to support and supplement efforts at national, regional and local level with regard to disaster prevention; the preparedness of those responsible for disaster management and the intervention in the event of disaster; to establish a framework for effective and rapid cooperation between national disaster management services when mutual assistance is needed; and to enhance the coherence of actions undertaken at international level in the field of disaster management especially in the context of cooperation with the international (CARICOM Secretariat 1991, 2). An analysis of CDERA's performance vis-à-vis similar type organizations is also necessary to reveal organizational strengths and weaknesses.

Comparison of the Agreement Establishing the Caribbean
Disaster Response Agency and the Emergency
Management Assistance Compact

CARICOM created CDERA after the massive hurricanes of 1988 and 1989 with the expressed purpose of improving future responses. Given this perspective, CDERA's concern was with response and to a lower degree with mitigation and prevention. CDERA's design is that of a mutual assistance mechanism for the management of disaster relief in the Caribbean. It is a highly centralized organization with a low budget for operation and low technical capacity (Bisek, Jones, and Ornstein 2001, 9).

Similarly, in the United States of America, the Southern Governors Association established the Emergency Management Assistance Compact for the purpose of managing disasters. The devastating effects of hurricanes also precipitated this compact.

Unlike the Caribbean countries, the Association of Southern Governors of the United States of America already had a state and if needed a federal response to disasters. What they needed was a mechanism for obtaining help on occasions when a disaster overwhelmed state resources. This association regarded the Emergency Management Assistance Compact (EMAC) as a means of securing additional resources to respond to disasters (Bullock 2000, 1).

The EMAC derives strength from formalizing an agreement that existed at the lower levels over a period of time. The Southern Governors' Association developed this compact on a pre-existing model. They used, according to Bullock, the civil defense compact from the 1950s (2000, 1). States revised this old compact on several occasions and so there were very few outstanding or unaddressed issues in the existing document. As a result there were few if any new issues to address and all the participating actors especially the primary actor, the state National Guard, knows its role well, through participation in prior relief missions. Interoperability is not an anticipated problem.

The EMAC unlike the Agreement Establishing CDERA anticipates diplomatic (legal and regulatory) issues and seeks to avoid such delays. States however are not compelled by this compact to send any assistance. According to Bullock special forms are available through the Southern Governors Association to speed up the process of requesting and agreeing to send assistance. No such protocols exist among CDERA participating states.

The process for developing the two agreements took different paths. The states involved in the EMAC developed the mechanism and then sought congressional approval. The Caribbean participating states developed the idea and implemented it

(Bullock 2000, 2). One probable outcome of such an approach is that the Caribbean agreement will have to undergo significant amendments before there is full acceptance of the operational plan. In fact CDERA through developments over the period is already considering the adoption of new approaches to disaster management. The CDERA is adopting this approach without the compensating changes in its structure (Bisek, Jones, and Ornstein 2001, 9).

Other significant points of comparison are the actual function and structure of the National Guard and the Defense Forces of the Caribbean. Both have national security and internal security roles. The essential differences are that the National Guard receives guidance from a national security policy on its missions. It also receives further guidance from the State government. In the Caribbean, the military generally does not receive written guidance from its national governments on its role. According to Harriott there is no expressly worded national security policy for the military (2002, 23). What is more is that the focus on security is so narrow that “national security is basically internal security” (2002, 28.) This facilitates military involvement in matters that rightly do not pertain to the military. Harriot also makes the point that the philosophy behind the structure of the defense forces of the region is that their purpose is not to fight any decisive engagements but to delay threats until superpowers arrive (2002, 23). Arguably the most pertinent point that Harriott makes to the understanding of contemporary roles and structure of Caribbean defense forces is that “The founding fathers initially resisted this effort and saw the military as unnecessary and incapable of providing a credible national defense. Their resistance took the form of refusing to fund the defense forces” (2002, 23).

Thus policy concerning the use of the military is not well circulated or non-existent in the Caribbean. The agreement establishing CDERA is also silent on the operating guidelines for the military in disaster relief operations and since signing there are no known revisions that amplify the roles and functions of the Caribbean military. In essence there is no single source document that establishes the role and function of the Caribbean military in disaster relief operations and which spells out guidelines for the operation of forces during such operations. The EMAC on the other hand specifically addresses the use of the National Guard and makes provision for the training of the forces of the compact states to train together to improve operability. Additionally, the agreement establishing CDERA specifically addresses what it terms as “disciplined forces.” The term identifies both civilian police and soldiers. Here the agreement introduces interoperability problems as it creates no separation between two organizationally disparate organizations (CARICOM Secretariat 1991, 7).

After examining the CDERA agreement and the EMAC, the research finds that the significant differences hinge on three main themes:

1. Effective disaster management requires a sound overarching policy that facilitates access to disaster-fighting resources;
2. Resources must be available; and
3. Effective disaster management requires coordination at all level of government.

Using the aforementioned themes as measures of effectiveness, the research found that EMAC is an effective policy because it has the support of state and national leaders as evidenced by state and federal recognition and support of the disaster management systems and procedures. It is also adequately resourced through public funding in a

budget and has built-in systems in the legislation for coordination. The agreement that establishes CDERA on the other hand suffers from the lack of clear coordination at the political level that undermines the systems of management. An exceptional example of seething disagreement among Caribbean leaders is the RSS, a military headquarters used in hurricane relief management, which is not recognized by all counties of the Caribbean. Another example is the emergency release of funds that often takes a long time due to complex government procedures, like tendering rules. This adds to the difficulty to mobilize additional resources in time to allow adequate relief measures to be taken.

The research also finds that acceptance of the management structures of CDERA, bureaucracy and resource constraints hinder the efficient implementation of any emergency response policy. The EMAC model offers a plausible alternative because it possesses particular conventions that Caribbean governments can easily implement. These conventions or peculiarities are that EMAC specifically includes the National Guard as a resource. The EMAC develops, writes, and tests procedures in actual disasters, uses nationally-accepted performance standards for tradesmen and provides opportunities for training for member states. Specifically though, the EMAC benefits tremendously from the use of the National Guard and finds great value in the guard's intrinsic characteristics.

The EMAC also establishes that the objectives of emergency response are to save life, prevent escalation of the event, and relieve suffering by meeting basic needs such as shelter, water, food, and medical care. It also notes that emergency response also includes the immediate repair or replacement of critical infrastructure. It further notes that the cost of emergency response services is very high and frequently exceeds the resources of the

state (Bullock 2000, 2). Therefore in planning its disaster response, EMAC participating states plan on using the National Guard as a primary resource. The National Guard brings the following competencies to disaster response operations:

1. The military offers a well organized and disciplined body of persons;
2. It offers a durable system of command, control and communications;
3. Leadership
4. Planning
5. It possesses the capacity for rapid mobilization;
6. It is capable of prolonged field operations under austere conditions;
7. Logistics; and
8. It possesses potent symbolism.

Disciplined Body of Persons

According to Cuny, “the vast disciplined and generally self supporting manpower of the military is the key asset coveted by civil disaster authorities” (1991, 57). Few professions are as reliant on discipline as the military. This professional trait is what makes the military most appropriate for hurricane relief missions. It involves the ready subordination of the will of the individual for the good of the group. According to the Philippine Army doctrine “military discipline is. a state of order and obedience existing within the armed force” (2003, 1). Military discipline is an extension and specialized application of discipline. It demands habitual but reasoned obedience which preserves initiative and functions unfalteringly, even in the absence of the commander. This discipline is the foundation of military effectiveness and is reinforced by appropriate laws. Specifically discipline coordinates the conduct and actions of military personnel.

Among military discipline's most indispensable virtues are honesty, integrity, loyalty, fortitude, and dedication.

Military law helps to maintain discipline. Military personnel are subject to military law, with its own judicial arrangements and punishments. Service men and women are legally bound to follow all lawful commands which may be given at any time and which could involve considerable risk to life. Such orders could require personnel to live, work and fight anywhere in their home country or overseas at short notice.

Personnel may be required to work long hours, shift work, irregular hours or a combination of these with no say on their schedule. Military organization and discipline facilitates coherence and mission performance at taxing times when other organizations are collapsing. According to Harrison the military has “a hierarchy of authority and rules and regulations, through which it is able to efficiently accomplish its missions and objectives (1992, 25).

Command, Control and Communications

The hierarchical military structure also has robust command and control systems that enhance coordination in chaotic situations. Command and control is the vital link between the leadership and the troops. It constitutes the analysis, planning, decision making, and communications necessary to direct military operations. These systems constitute a set of standard operating procedures that external environmental conditions cannot easily degrade. Soldiers know these hardened systems well and generally respond to command and control stimuli in a conditioned fashion. According to Harrison “the military’s is well suited to disaster relief because its bureaucratic structure provides the means for coordinating and controlling large numbers of people involved in different and

yet complementary tasks and activities” (1992, 25). Table 2 illustrates a command and control process that progresses from political directive to the tactical implementation of the plan.

Table 2. Command and Control: The Hierarchy of Direction

Political Direction

Sets policy objectives
Defines end conditions
Provides basic guidance, including rules of engagement

Strategic Direction

Develops basic strategy to achieve objectives
Establishes campaign purposes and sequencing

Operational Direction

Orchestrates units, logistics, intelligence, and other support

Tactical Direction

Directs units engaged in operations

Source: Lt. Gen. John H. Cushman, USA retired, *Thoughts for Joint Commanders*, Annapolis, Maryland, 1993, 76.

Others view military command and control differently. Quarantelli’s opinion is that in disaster relief situations, there should not be a strict order driven military type system. He espouses cooperation and coordination as the essential ingredients of disaster management. In a stressful environment, Quarantelli believes the rigidity of the military environment will add additional stressors (1998, 10-11). He believes that there is no one in charge but at the same time everyone ought to be working diligently toward achieving

success. Dynes sees military assistance in relief operations as a model that survived the cold war when populations were at risk of annihilation from nuclear, biological and chemical warfare. Dynes does not see military assistance in relief operations as relevant to the current environment where mitigation and prevention are more suitable options (1974, 3). While these views hold some merit there is a requirement for some kind of order producing element in times of crisis. Hurricane relief management demands the rapid reestablishment of some semblance of normality in the aftermath of the chaos inducing effects of hurricanes.

Leadership and Organizational Ability

The basis of the military command and control system is the commander or leader. He develops an intent statement or a general methodology to complete a given task. The intent statement describes the criteria for success and gives junior leaders wide enough latitude to take the initiative and achieve success. In the chaotic environment of hurricane relief operations, this is the kind of organization that could bring solace to citizens through the restoration of the essential services and the restoration of some semblance of normality. The military is a well trained, adequately led, motivated and people-centered organization that sets the conditions for success and empowers individuals to complete the assigned task.

The military has an extensive human resource pool upon which to draw. The military professional development process develops young individuals with significant specialized skills. The military also trains individuals in a variety of skill areas. Individual soldiers possess a mix of skills and abilities that the average civilian does not possess. Moreover, the soldier can apply his/her skills in an austere environment using

the low or high technology resources. The process also develops critical values and ethical principles which help to build the character of the individual soldier. These knowledge skills and abilities have applications in the hurricane relief management field. According to Cuny, the army supplies a range of services in disaster relief operations (1991, 57).

Planning

The military is an appropriate organization to conduct disaster relief operations as it has a strong planning culture. This planning culture facilitates pragmatic simplicity, flexibility and decentralized decision making. The planning culture facilitates meeting the challenges of interagency cooperation in the hurricane devastated area and helps the development of measures of effectiveness which ultimately guide decision making. Goal achievement therefore guides military operations. Without these well defined goals, a mission can develop into open-ended commitment. Similarly, without a clearly defined division of labor, other duties for which the troops may not have been trained beforehand can take precedence over the agreed upon operation. The military keeps the hurricane rehabilitative process moving forward using planning tools such as benchmarks with realistic target dates.

Capacity for Rapid Mobilization

Military assistance to disaster relief operations is appropriate as the military possesses the wherewithal to rapidly mobilize and transport soldiers and materiel to the scene of a disaster. The military is able to mobilize quickly as it has disciplined soldiers, available equipment and dedicated transportation means. In addition, it has a budget and an organizational ethos that demands immediate response to political direction.

According to Harrison “the military is oriented to contingency operations and is always ready to respond to unanticipated demands of a disaster situation. This ability to adjust rapidly to the unexpected event is their most valuable asset” (1992, 26). All these attributes make the military a ready and suitable organization for hurricane relief management.

Prolonged Field Operations under Austere Conditions

Routine military exercises condition military members to endure hardship, discomfort and danger without allowing these conditions to degrade individual and organizational effectiveness and mission performance. This conditioning begins as a recruit in the military. Military training conditions the individual to operate in austere environments and facilitates subordination of individual goals. Team goals are most important and military exercises and rituals reinforce selfless service, even if one must endure hardship or discomfort.

In disaster relief situations, servicepersons can perform at their usually high levels because they are accustomed to the demands of operating in austere environments. The conditions that follow hurricanes are similar to the phenomenon created by war and war time simulated training. Thus soldiers are able to operate in catastrophic conditions for prolonged periods without relying on the standard amenities of life afforded to civilians like roads, sewers and utilities.

Logistics

The military has logistic and administrative capability that is very effective in times of hurricane devastation. Logistic planners routinely focus on planning for and executing logistic support for military units. According to NATO, logistic and

administrative capability means “the science of planning and carrying out the movement and maintenance of forces.” The term refers to aspects of military operations, which deal with the following spheres: “design and development, acquisition, storage, transport, distribution, maintenance, evacuation and disposition of materiel; transport of personnel; acquisition, construction, maintenance, operation and disposition of facilities; acquisition or provision of services; and Medical and Health Service Support” (2001, 173). This definition involves a wide range of responsibilities and services and the need to provide all of these capabilities would overwhelm any single civilian organization. As Hurricane relief operations make heavy demands on each area of logistics and administration and would overwhelm any single civilian organization. Cuny lists, among the reasons for military involvement, “the military’s most sought-after assets such as fuel commodities including food, building supplies and medicines, tools and equipment (especially logistics and communications)” (1991, 57).

Possesses Potent Symbolism

The National Academy of Public Administration (NAPA) in its January 1997 report to the U.S. Congress highlights what it refers to as positive symbolism of employing military units in disaster relief situations. The report quotes a spectator as saying that he saw in all “its vast majesty the Government of the United States...the faces wearing the stamp of discipline and determination” (Graham et al 1997, 11). This report illustrates the deep respect for the military and the unblemished record of success. However this symbolism can also have a negative effect if the military is perceived as corrupt or repressive. Cuny states that “in many countries the military represents the power of a repressive government, and the local people, far from welcoming the arrival

of the military after a disaster are often fearful of any increased presence of the armed forces” (1991, 76).

Appropriateness for Hurricane Relief Missions
versus the Capability to Perform the Mission

Military organizations can only have an appropriate role in hurricane management if they have special capabilities like the capacity for rapid mobilization; a durable system of command, control and communications; prolonged field operations capability under austere conditions and; possesses potent symbolism. The Caribbean military does not enjoy the same capability as the military in developed countries. While the core competencies of the armed forces are suitable for the particular condition of relief work after hurricanes, it does not have the capacity to undertake the mission effectively. To determine how Caribbean military can add value, there must be some comparison of the appropriateness of the mission and the capability of the Caribbean military to perform these missions.

Individual Caribbean military forces have limited mobilization capabilities. The participating states of CDERA depend heavily on the air transportation assets of the United States Air Force to move. When these assets are unavailable they depend on the resources of regional civilian airlines. In most cases, the troops deploy by British West Indian Airways (BWIA) International. The use of civilian airlines severely restricts the type of cargo as civilian airlines have certain insurance stipulations on the type of cargo they carry. Tools, equipment and soldier kits, must fit the size and quality requirements of the civilian airlines. These stipulations also limit the quality of aid that the requesting nation receives as essential tools and equipment have to be left behind. Sea transportation

assets are also limited and only a few maritime forces in the region are capable of carrying heavy equipment and supplies needed for immediate action during hurricane relief operations.

The capacity for rapid mobilization to hurricane relief operations requires the full range of logistics support--including airlift, sealift, combat support and combat service support. Providing logistics support for forces away from home in the Caribbean is particularly difficult because of the unavailability of transportation. Given the importance and complexity of logistics support, it must be included in all operational planning and must constitute a part of the initial deployment. Planners need to consider the condition of local infrastructure, including water, power, and fuel supplies and transportation systems, ports, and airfields; information about health and other conditions that may affect military operations. These considerations generally will help to build force structure and shape logistic plans. Too often units from Caribbean participating states deploy with the bare logistic essentials and depend on the receiving nation to provide their needs. With limited logistic capability, the Caribbean military can make no appreciable impact on hurricane relief operations.

Harrison makes the point that the military has a structure and capability to command and control large numbers of personnel “in different and yet complementary tasks and activities” (1992, 25). However, a common command, control, and communications infrastructure does not exist among the Caribbean military. An examination of the command, control, and communications structures in the Caribbean reveals significant difficulties as revealed by Caribbean military participation in Operation Uphold Democracy. Zanini and Taw report that Caribbean military

participation in Uphold Democracy was good overall but suffered because of command, control and communications incompatibility. They report inter alia “the relatively peaceful nature of the operations and the benign environment encountered by the multinational forces greatly eased the compatibility concerns caused by technological disparity” (2000, 51). They went on to report that “pre-deployment training of coalition forces played a crucial role in minimizing compatibility problems—as in the case of the CARICOM battalion. Command and control of the CARICOM battalion was undermined by discipline problems during the Haiti operations, in part due to the battalion commander’s lack of authority over troops from different countries. However, the performance of the CARICOM battalion would have worsened considerably without the assistance of the Coalition Support Team prior to and during deployment” (2000, 51). Individual Caribbean forces have differences in command and control systems, terminology, doctrine, and operating standards. Each unit from a participating state is likely to have very different equipment and supply requirements. There is no standardization.

The effectiveness of command and control is mainly a function of the quality and teamwork of a headquarters staff--and both of these are far more difficult to achieve when dealing with a collection of Caribbean forces. Zanini and Taw report “not all potential compatibility issues were addressed by training, however and not all could be. For instance, the Coalition Support Team trained the CARICOM battalion in basic infantry skills and placed less emphasis on battle staff procedures” (2000, 51). These authors highlight the shortcomings of the battle staff procedure or the ability to command and control operations in the CARICOM battalion. These authors refer to the absence of

common military and logistics doctrine. The training and equipment of the units vary widely and there is no common staff procedure among the several military forces. The doctrinal differences and the variability of combat communication equipment from country to country limit the chances of interoperability.

The CDERA agreement describes soldiers and policemen as a homogeneous entity. This adds to command and control difficulty as two disparate organizations are organized to conduct the same task. Different doctrinal requirements cause incompatibility which cannot be rectified in a short period. This incompatibility of forces hinders interagency cooperation and complicates the command and control infrastructure during hurricane relief operations. Along with this fairly complex chain of command and control, each national contingent in the force maintains its own national chain of command and reports back to its own national government. Some participating states do not give up sovereignty of its own citizens or of its armed forces and while a state might contribute some units to CARICOM for a specified operation, there will always be numerous restrictions on the use of national forces under multinational command.

Prolonged operations under austere conditions require numerous assets which many Caribbean military forces do not have. Many Caribbean military organizations are resource poor and cannot conduct sustained operations without support from international military forces. Consequently military assistance in support of hurricane relief operations can only last for very limited periods. After that time, the military would require provisioning. The authors experience calls to mind instances where soldiers from participating CARICOM countries arrived in a devastated country without tents, food or appropriate bedding which are the bare essential elements to support life.

If the Caribbean military has an appropriate role in hurricane relief operations, then it can contribute to the alleviation of devastation in the aftermath of hurricanes. The table of organization and equipment for defense forces of the Caribbean reveals too small a size and equipment schedules to sustain high intensity conflict. According to a 1998 World Bank and IMF summary compiled by Dr. Robinson Rojas, the Caribbean region's military spending of thirteen countries participating in CDERA is 276.3 million dollars out of a combined Gross National Product (GNP) of 42961 million United States dollars or 0.64% of GNP (1998, 222-23) These figures are the sum of recurrent and capital expenditure on the military in the Caribbean. This reveals that expenditure on the military is not a high priority as according to Harriott, traditionally Caribbean leaders "saw the military as unnecessary and incapable of providing a credible national defense. Their resistance took the form of refusing to fund the defense forces. The British provided the entire capital outlay for the military, yet West Indian governments objected to the British proposal that these governments allocate 1% of their budgets to finance the recurrent expenditure of the military. They finally settled on 0.75%" (2002, 23).

Adequate funding is a key issue in hurricane relief operations as there are expenses prior to and during operations that require substantial funding support. Funding is the antecedent to acquiring resources. Both the World Bank and Harriott agree that there is a historical and contemporary disinclination to adequately fund the Caribbean military. As a result of these financial challenges, the Caribbean's defense establishments suffer from significant monetary shortfalls to the military. These include insufficient air and sea transport to deploy Caribbean forces with their equipment; inadequate logistic

capability; inadequate deployable command and control; and deficiencies in secure, interoperable communications.

Caribbean countries cannot afford to support hurricane relief operations at home or abroad without external assistance. Consequently, according to Griffith, the RSS or the eastern Caribbean counties depend on foreign material and political support. This support diminished over time. He states “the combined effect of this reduced foreign support and the delinquency of member-states can only serve to compromise the operational readiness of the System, and consequently, its ability to rise to the challenge of helping to cope with threats and apprehensions in the region” (1996, 67).

The foregoing comparison of the EMAC and CDERA highlights four major themes. They are structure, resources, legislation and the history and background of the organizations. These themes used by themselves measure appropriateness in absolute and concrete terms. However, absolute or concrete terms alone cannot describe or measure appropriateness. If that is the case then the lack of adequate resources makes the armed forces of the Caribbean unprepared for any appropriate role in hurricane relief management. Experience reveals that the military makes a significant contribution to hurricane relief management as articulated below:

1. The military system of organization is versatile enough to cross disciplines and offer other useful applications in the delivery of emergency services where speedy mobilization and quick decisions by authoritative commands are important.

2. Hurricanes challenge the capability of the Caribbean to continue on the path of sustainable development. The thesis finds that it is usual to use resources on hurricane relief that are set aside for investment on other competing projects. Despite the apparent

low capacity of armed forces of the Caribbean to perform the all-encompassing hurricane relief operations, the military can use its capabilities to assist in the work to achieve sustainable development of the Caribbean

3. In the Caribbean context, the military has historical alignment with internal security operations. Some Caribbean statesmen feel that natural disasters pose a greater threat to security than does the loss of national territory to an enemy (Simon, 1998).

4. There is a long standing professional relationship between the military and the civilian authority. As well there is a well developed system of civilian oversight of the military and a disinclination by the military to act on its own.

5. The population of the Caribbean associates the military with emergency operations and there is perceived significance of the contribution of this role to Caribbean safety and security. Without that perceived significance, the Army stands increasingly at risk from those who would maximize the 'peace dividend' to reduce defense spending.

6. There is an overwhelming need to acquire additional assets to assist in hurricane relief operations. The Caribbean needs to supplement the assistance provided by international donor agencies.

CHAPTER 5

CONCLUSIONS AND RECOMMENDATIONS

This chapter concludes the examination with an answer derived from the research on the appropriateness of the current role of the military in hurricane management. These conclusions summarize the appropriateness of the use of military resources for regional disaster assistance and recommend factors for improving the utilization of these resources in assistance efforts.

The research questions guide the conclusion to find an ideal model of appropriate military participation in regional disaster relief. The primary research question being: are hurricane relief operations an appropriate role for the military in the Caribbean? The secondary questions are: How may military efforts be coordinated with those of civilian authorities? What risks are posed to military forces in such operations and are they justified? Does military involvement run the risk of creating an open-ended commitment which can rapidly expand and from which withdrawal may be very difficult?

Appropriateness as defined in the thesis is the relevance or the degree of importance of the military's contribution to hurricane relief operations. Using this definition and the research questions the research derives a set of criteria for assessing appropriateness of military support to hurricane relief operations in the Caribbean. The criteria derived from the research for assessing the appropriateness of military assistance focus on:

1. The historical and contemporary disposition of the Caribbean forces to undertake hurricane relief operations.

2. Whether there is a level of need that overwhelms existing resources.
3. Whether by taking on the mission the military obstructs civilian agencies from taking on that function.
4. Whether the military by taking on a mission gives the armed forces extra privilege to the extent that it becomes a special interest group promoting its own institutional interests in the area of hurricane response to the detriment of other public or private entities exercising or developing competence which would strengthen the development of developing countries.
5. Whether the military by taking on the mission causes it to neglect its core mission, to deter its nation's enemies, a mission which requires considerable time and effort for planning, training and readiness, in light of dramatically changing strategic threats and technological capabilities.

The research finds that there are both historical and contemporary justifications of the use of the military in hurricane relief operations. Historically, national security in the region is intertwined with internal security and there is hardly any partitioning of the two concepts. As Jean Luc Poncelet describes in *Disaster Management in the Caribbean*, the military has been a multi-purpose supplier of emergency services prior to the 1960s (1997, 273). In the contemporary environment, the justification for military assistance to hurricane relief is survival of small fragile Caribbean economies that are dependent on good weather and sound physical infrastructure to produce their goods and services. Consequently, across the Caribbean, although the stated purpose of the armed forces and the rationale for its existence is combat, the following three traditional roles of the armed forces are dominant:

1. The core mission of the armed forces is combat namely to deter and, if necessary, to fight when vital national interests are threatened.
2. A traditional secondary mission of the armed forces is disaster relief--providing assistance and security to victims of floods, hurricanes, and civil disturbances.
3. A new post-Cold War mission is participating in for peace support operations that include supporting conflict resolution in Caribbean countries under international mandate.

Also in the current international relations environment, there is the persuasive argument to use the armed forces as an already-established capacity for solving a wide range of society's problems. This pattern of using military resources in the development of small countries is common place in many neighboring Latin American countries that need to develop their physical and social infrastructure.

Undeniably, there is a significant level of need for assistance to combat the phenomenon of hurricanes as the quest to ensure survival of the small fragile Caribbean economies is uppermost in the minds of Caribbean leaders. Rationally, they have to exhaust traditional and nontraditional means to alleviate the impact of hurricanes before turning to international sources. Accepting that the phenomenon of hurricanes is one of the main threats to internal security in the region, and that disaster response management is critical to the maintenance of economic activity in the Caribbean, Caribbean leaders turn to international sources to satiate this need for assistance and resources. This is evidenced by the number of international donor and disaster agencies that support CDERA and individual countries of the Caribbean.

Although there is a scarcity of resources to conduct hurricane relief missions, using military assets in hurricane relief missions appropriately involves protection of the privileges of civilian agencies that undertake hurricane recovery related functions. In the Caribbean in the post disaster period, there is sufficient work to accommodate both the military and civilian agencies. The activities that either party is involved in are disparate, in some respects parallel but never converging so that there is role ambiguity. The military's involvement in hurricane relief is limited to restoration activity while civilian contractors are more involved in postdisaster rehabilitation.

Furthermore the role for the military in hurricane relief operations is not permanent. It is dependent on the region's continued vulnerability to hurricanes, civilian authorities' efforts to mitigate these vulnerabilities and national and regional approach to finding suitably resourced civilian agencies to manage hurricanes. This role hinges on the status of the military, as an organ of government, to render assistance should the magnitude of the disaster exceed the capability of any Caribbean country that is party to the CDERA agreement.

A well-crafted military role in hurricane relief operations does not obstruct civilian agencies from participating. The use of the military in hurricane relief management lies in its promptness to solve the problems of saving lives, restoring essential services and physical infrastructure, calming the population and helping the society to return to normality. It achieves appropriateness when it supplies a significant, suitably disciplined and self-sustaining workforce that can deploy at short notice to a hurricane disaster scene. Hurricane Andrew is a well-known example of appropriate military action in hurricane relief operations.

The undertaking of hurricane relief missions by the military does not give the armed forces any extra privilege. The military exercise of non-traditional missions demonstrates the resolve of governments in these countries to contribute to national well being. These governments, in an environment of scarcity, call on the military to perform this emergency mission. They select the military out of a limited number of institutions that are resourced to undertake such a mission in a timely fashion.

Another relevant issue is how military involvement in a non-combat role affects the nature of the armed forces' participation in national politics. The primary objective of military assistance to hurricane relief missions is to facilitate the timely delivery of disaster relief assistance to victims of hurricanes. An expected accomplishment would be a more timely alleviation of the suffering caused by natural and other disasters. Indicators of achievement would include timelier and better coordination of responses to the countries affected by disasters, and improved field and regional cooperation in disaster management. Military involvement in civic action or the economy focuses on strengthening governance and has nothing to do with acquiring privileges.

Caribbean military involvement in non-combat roles are appropriate if it helps the consolidation of governance and does not harm the military's ability to carry out its core mission: providing for its nation's external security. The weakening of combat readiness due to involvement in other activities would seriously undermine the foundation for consolidating governance. By undertaking the mission of hurricane relief management, the military does not neglect its primary mission. It merely utilizes its core competencies for peaceful purposes. The thesis finds that the military system of organization is versatile enough not only to cross disciplines and offer other useful applications in the delivery of

emergency services where speedy mobilization and quick decisions by authoritative commands are important, but to maintain relevance to its primary role of combat. The use of the National Guard in the United States of America Emergency management Assistance compact is a sound example. The National Guard provides a system for the military to manage both roles effectively.

There is an appropriate role for the military in hurricane relief operations but there is a need to provide adequate resources to the military to affect these missions. First Caribbean leaders must craft a national security policy that will enable military planning for this mission. Throughout the Caribbean there is no known official document that clearly articulates national security policy. Official statements of leaders and inferences from the primary functions and deployment of the security forces are the only insights into such a policy. An explicit security policy would better facilitate critical evaluations of the appropriateness of a country's security forces by Caribbean national leaders who may not be experts in the military field and lead to sound adjustment to changes in the environment.

Civilian authorities need to develop national security policies. From these national security policies will flow the necessary direction to develop the capabilities necessary to perform specific named missions like hurricane relief management. This systematic approach will establish the need for funding, assets, competencies and all necessary resources for undertaking this mission.

Military hurricane relief operations must be labeled "transitional missions"; and checks should be put in place to require authorization by civilian authorities to extend the time horizons of these missions. It is essential that civilian authorities have plans for

beginning and ending transitional missions required of their armed forces. Such plans are needed to ensure that the armed forces do not take on unnecessary non-military missions. These plans should also guarantee that the military pays attention to its core combat readiness military missions.

The appropriate use of military resources for regional disaster assistance requires a change in the military's operational concepts as well as improvements in the functioning of a larger disaster assistance effort. The military can fill a role in improving regional disaster assistance. However, the primary responsibility for this effort rests with civil authorities charged with handling disaster assistance. Secondly, despite efforts to integrate military resources into appropriate roles in regional disaster assistance, continuing problems are expected. These problems will arise from the basic conflict between the military's normal role, which involves the use of force and control, and the supportive and co-operative roles normally associated with non-military disaster assistance providers. Finally, the research finds that the military role in hurricane relief operations is only appropriate if the military possesses the assets and competencies that will add value to the response to the aftermath of hurricanes.

The thesis examined the role that the United States National Guard plays in the EMAC and recognizes that the National Guard is well resourced to undertake its mission. Although the military in the Caribbean is not as well resourced as the National Guard, the role of military support to hurricane relief operations is one that will help the Caribbean military to establish a contemporary role in combating the security dilemma that hurricanes pose.

This thesis argues that both the historical perspective and new forms of insecurity in the Caribbean regional context necessitate the allocation of new tasks for the Caribbean military. It reviews the peculiarities of Caribbean economies and the devastating effect of hurricanes on these economies. It examines the typical roles of the military in a developed country in hurricane and disaster relief operations and reviews the Caribbean military's capability to perform such roles. Finally the research compares the definition of appropriateness hypothesized in the study against the collected data and determines that the role is appropriate.

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